FIG. 1

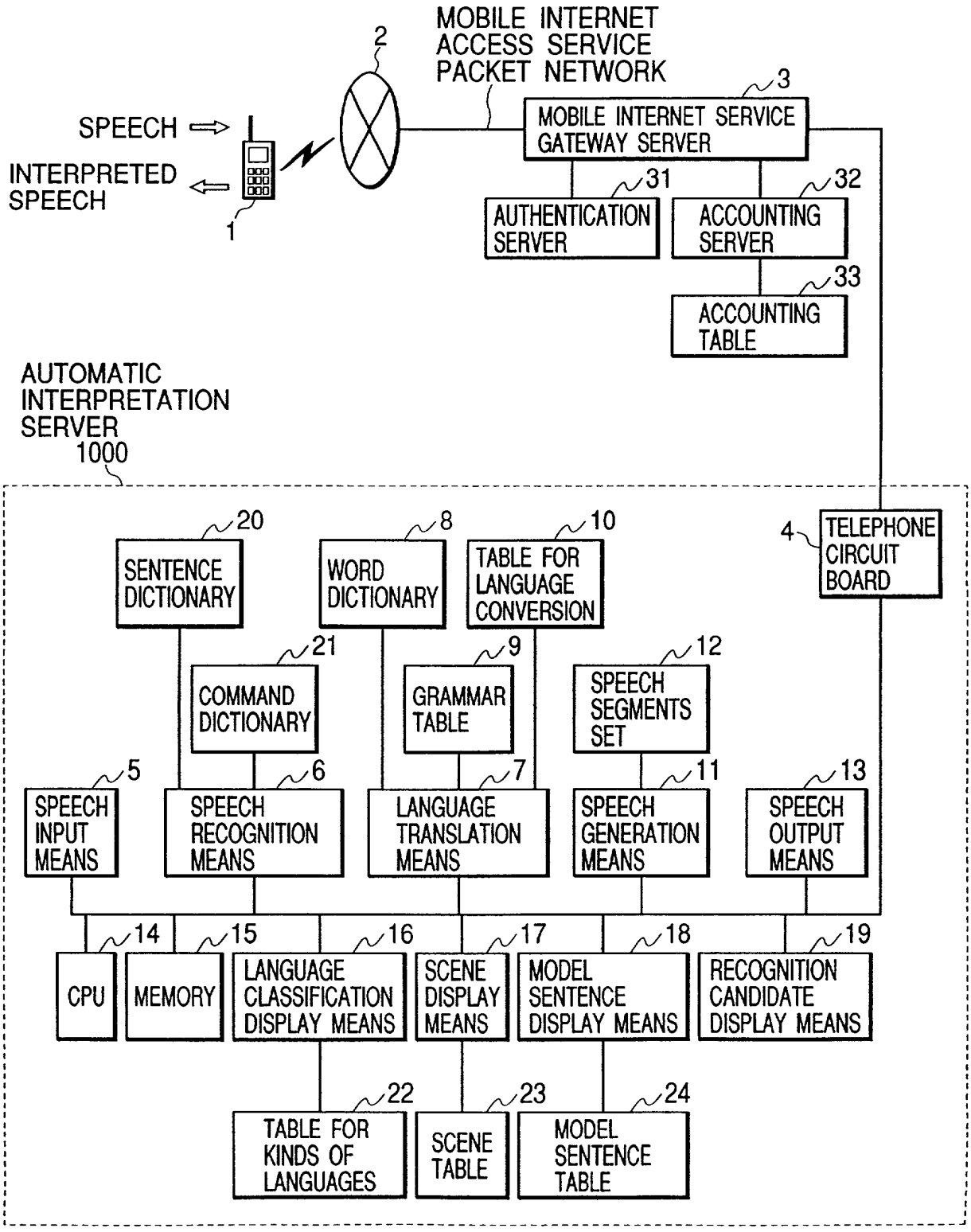

MOBILE INTERNET ACCESS SERVICE PACKET NETWORK
2
3
SPEECH
INTERPRETED SPEECH
1
MOBILE INTERNET SERVICE GATEWAY SERVER
31
32
AUTHENTICATION SERVER
ACCOUNTING SERVER
33
ACCOUNTING TABLE
AUTOMATIC INTERPRETATION SERVER
1000
20
8
10
4
SENTENCE DICTIONARY
WORD DICTIONARY
TABLE FOR LANGUAGE CONVERSION
TELEPHONE CIRCUIT BOARD
21
9
12
COMMAND DICTIONARY
GRAMMAR TABLE
SPEECH SEGMENTS SET
5
6
7
11
13
SPEECH INPUT MEANS
SPEECH RECOGNITION MEANS
LANGUAGE TRANSLATION MEANS
SPEECH GENERATION MEANS
SPEECH OUTPUT MEANS
14
15
16
17
18
19
CPU
MEMORY
LANGUAGE CLASSIFICATION DISPLAY MEANS
SCENE DISPLAY MEANS
MODEL SENTENCE DISPLAY MEANS
RECOGNITION CANDIDATE DISPLAY MEANS
22
23
24
TABLE FOR KINDS OF LANGUAGES
SCENE TABLE
MODEL SENTENCE TABLE

FIG. 2

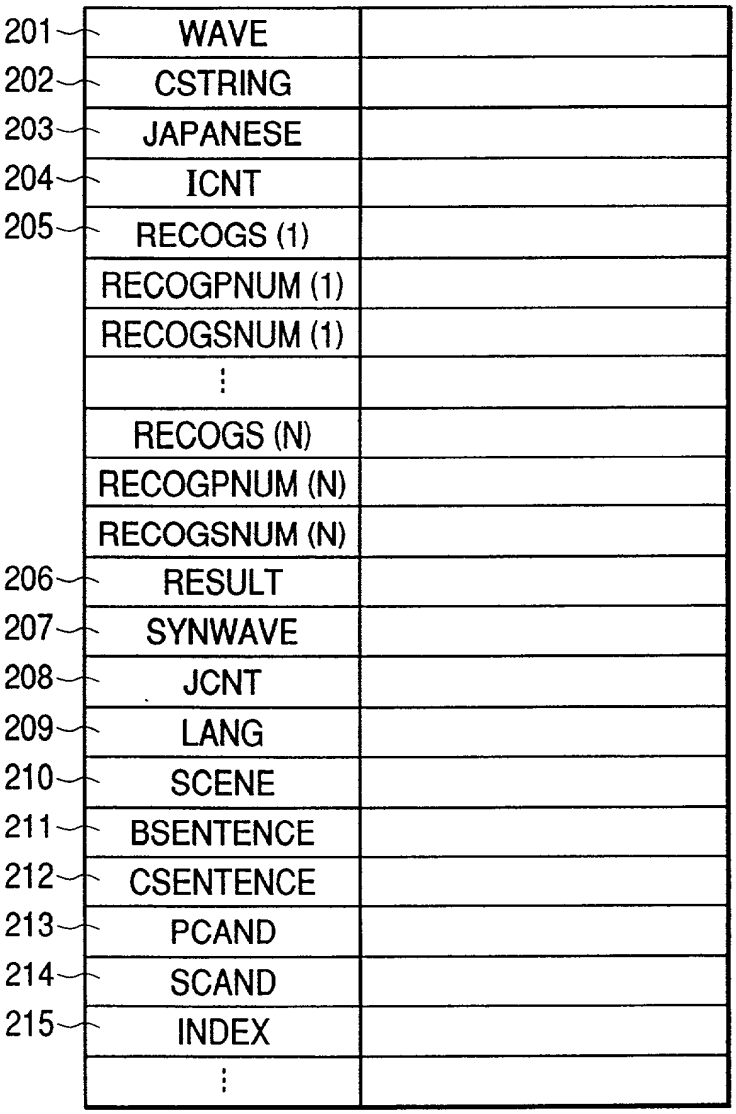

201
WAVE
202
CSTRING
203
JAPANESE
204
ICNT
205
RECOGS (1)
RECOGPNUM (1)
RECOGSNUM (1)
RECOGS (N)
RECOGPNUM (N)
RECOGSNUM (N)
206
RESULT
207
SYNWAVE
208
JCNT
209
LANG
210
SCENE
211
BSENTENCE
212
CSENTENCE
213
PCAND
214
SCAND
215
INDEX

FIG. 3

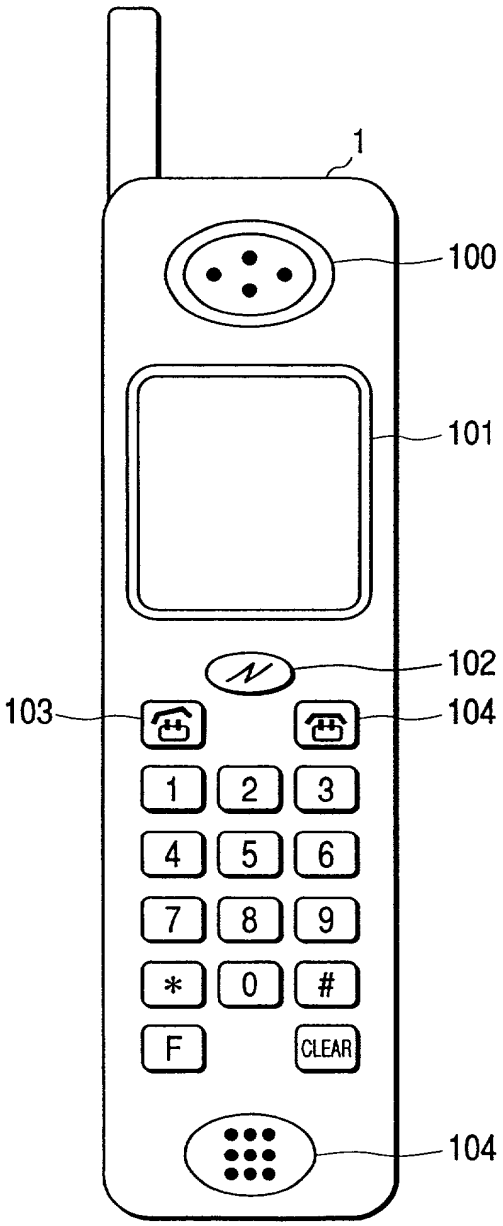

1
100
101
102
103
104
1
2
3
4
5
6
7
8
9
*
0
#
F
CLEAR
104

FIG. 4

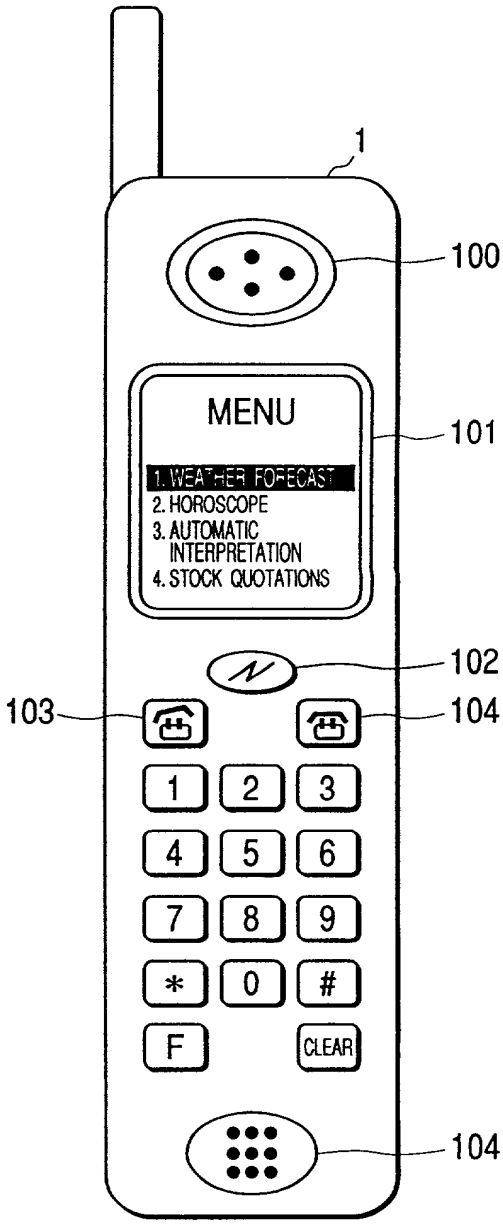

1
100
MENU
1. WEATHER FORECAST
2. HOROSCOPE
3. AUTOMATIC INTERPRETATION
4. STOCK QUOTATIONS
101
102
103
104
1
2
3
4
5
6
7
8
9
*
0
#
F
CLEAR
104

FIG. 5

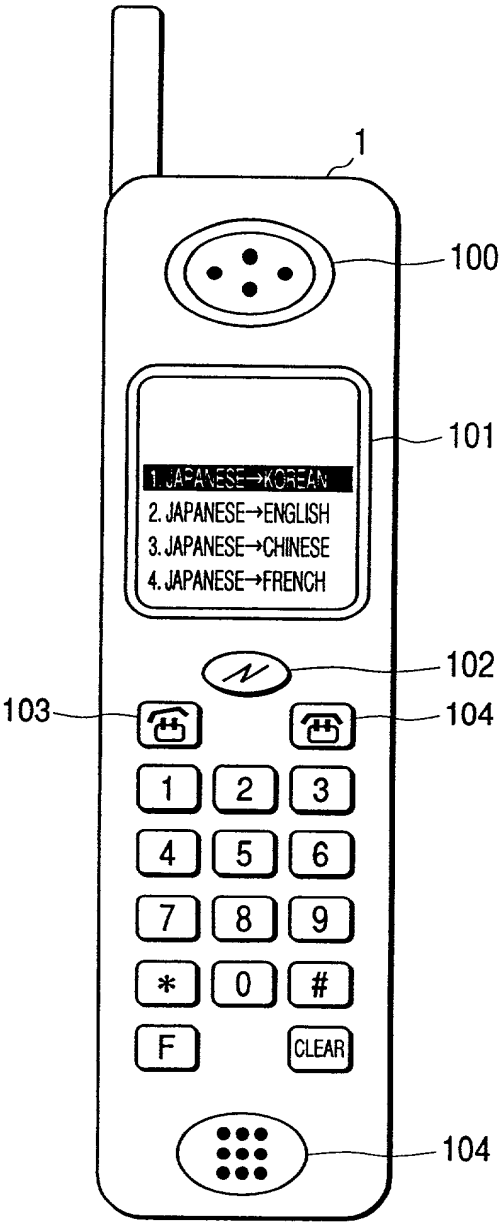

1
100
101
1. JAPANESE→KOREAN
2. JAPANESE→ENGLISH
3. JAPANESE→CHINESE
4. JAPANESE→FRENCH
102
103
104
1 2 3
4 5 6
7 8 9
* 0 #
F
CLEAR
104

FIG. 6

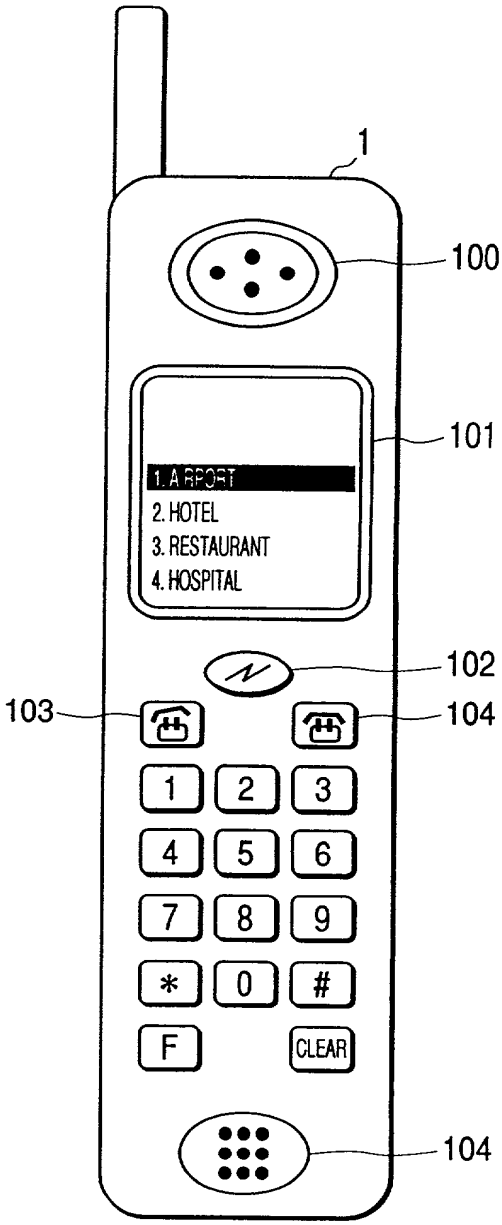

1
100
101
1. AIRPORT
2. HOTEL
3. RESTAURANT
4. HOSPITAL
102
103
104
1 2 3
4 5 6
7 8 9
* 0 #
F
CLEAR
104

FIG. 7

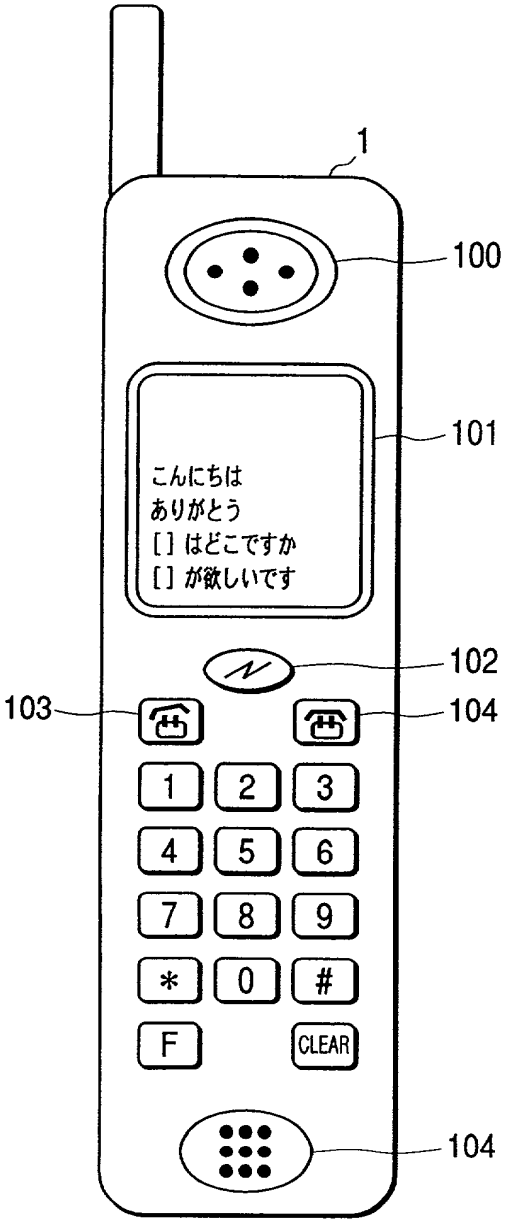

1
100
101
こんにちは
ありがとう
[] はどこですか
[] が欲しいです
102
103
104
1
2
3
4
5
6
7
8
9
*
0
#
F
CLEAR
104

FIG. 8

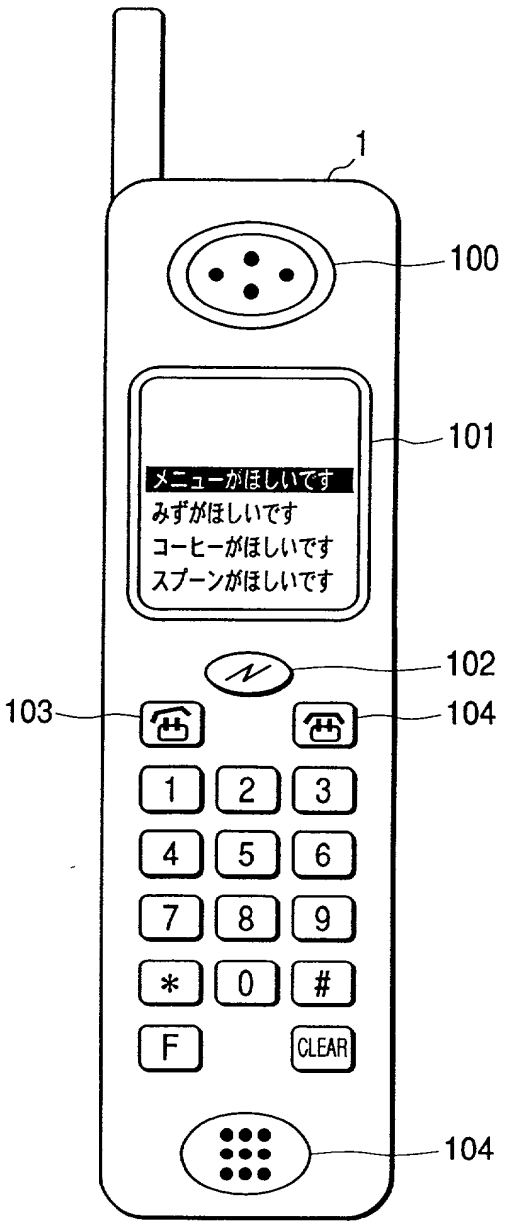

1
100
101
メニューがほしいです
みずがほしいです
コーヒーがほしいです
スプーンがほしいです
102
103
104
1
2
3
4
5
6
7
8
9
*
0
#
F
CLEAR
104

FIG. 9

	311 MODEL SENTENCE NUMBER	312 SENTENCE NUMBER	313 TRANSLATED WORDS 1	2	...
	⋮	⋮	⋮	⋮	⋮
301	4	1	...	I'd like to have a glass of water.	...
302	4	2	...	Can I see the menu ?	...
303	4	3	...	I'd like to have a cup of coffee.	...
304	4	4	...	I'd like to have a spoon.	...
	⋮	⋮	⋮	⋮	⋮

FIG. 10

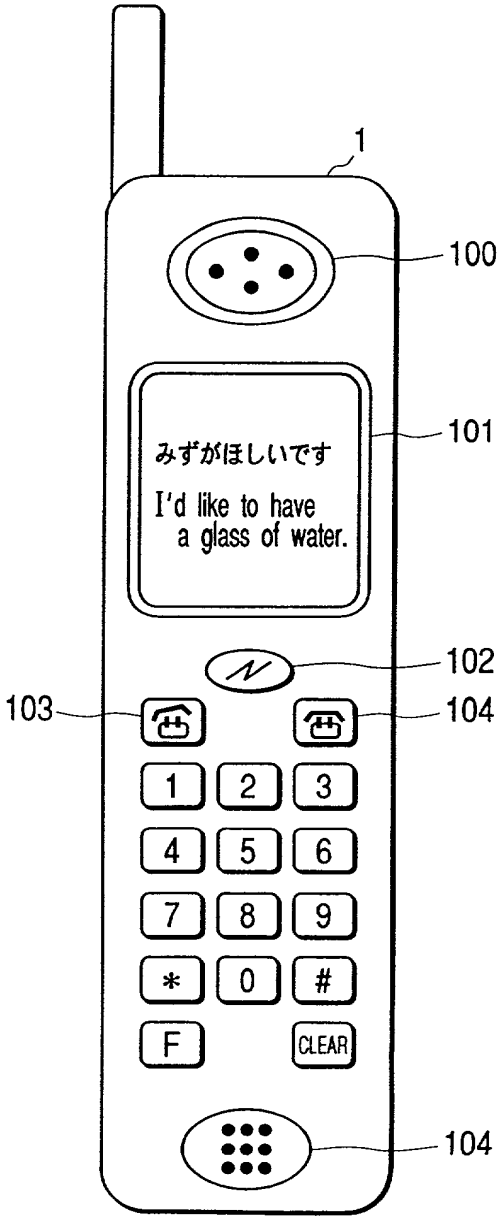


FIG. 11

	411 USER ID	412 CHARGE
	⋮	⋮
401	1234	100
402	1235	0
403	1236	300
404	1237	850
	⋮	⋮

FIG. 12

	811 LANGUAGE CLASSIFICATION NUMBER	812 LANGUAGE CLASSIFICATION
801	1	JAPANESE→KOREAN
802	2	JAPANESE→ENGLISH
803	3	JAPANESE→CHINESE
804	4	JAPANESE→FRENCH
	⋮	⋮

FIG. 13

	911 SCENE NUMBER	912 SCENE
901	1	AIRPORT
902	2	HOTEL
903	3	RESTAURANT
904	4	HOSPITAL

FIG. 14

	511 SCENE NUMBER	512 MODEL SENTENCE NUMBER	513 MODEL SENTENCE
	1	1	[ ] はどこですか
	⋮	⋮	
501	3	1	こんにちは
502	3	2	ありがとう
503	3	3	[ ] はどこですか
504	3	4	[ ] が欲しいです
505	3	5	[ ] はありますか
506	3	6	[ ] て下さい
	⋮	⋮	

FIG. 15

	611 MODEL SENTENCE NUMBER	612 SENTENCE NUMBER	613 SENTENCE	614 CHARACTERISTICS VECTOR SEQUENCE
601	1	1	こんにちは	A11, A12, …
602	2	1	ありがとう	A21, A22, …
	⋮	⋮	⋮	⋮
603	4	1	みずがほしいです	A31, A32, …
604	4	2	めにゅーがほしいです	A41, A42, …
605	4	3	こーひーがほしいです	A51, A52, …
606	4	4	すぷーんがほしいです	A61, A62, …
	⋮	⋮	⋮	⋮

FIG. 16

	711 COMMAND NUMBER	712 COMMAND	713 CHARACTERISTICS VECTOR SEQUENCE
701	1	かくてい	B11, B12, …
702	2	つぎ	B21, B22, …
703	3	サービス終了	⋮
	⋮	⋮	B31, B32, …

FIG. 17

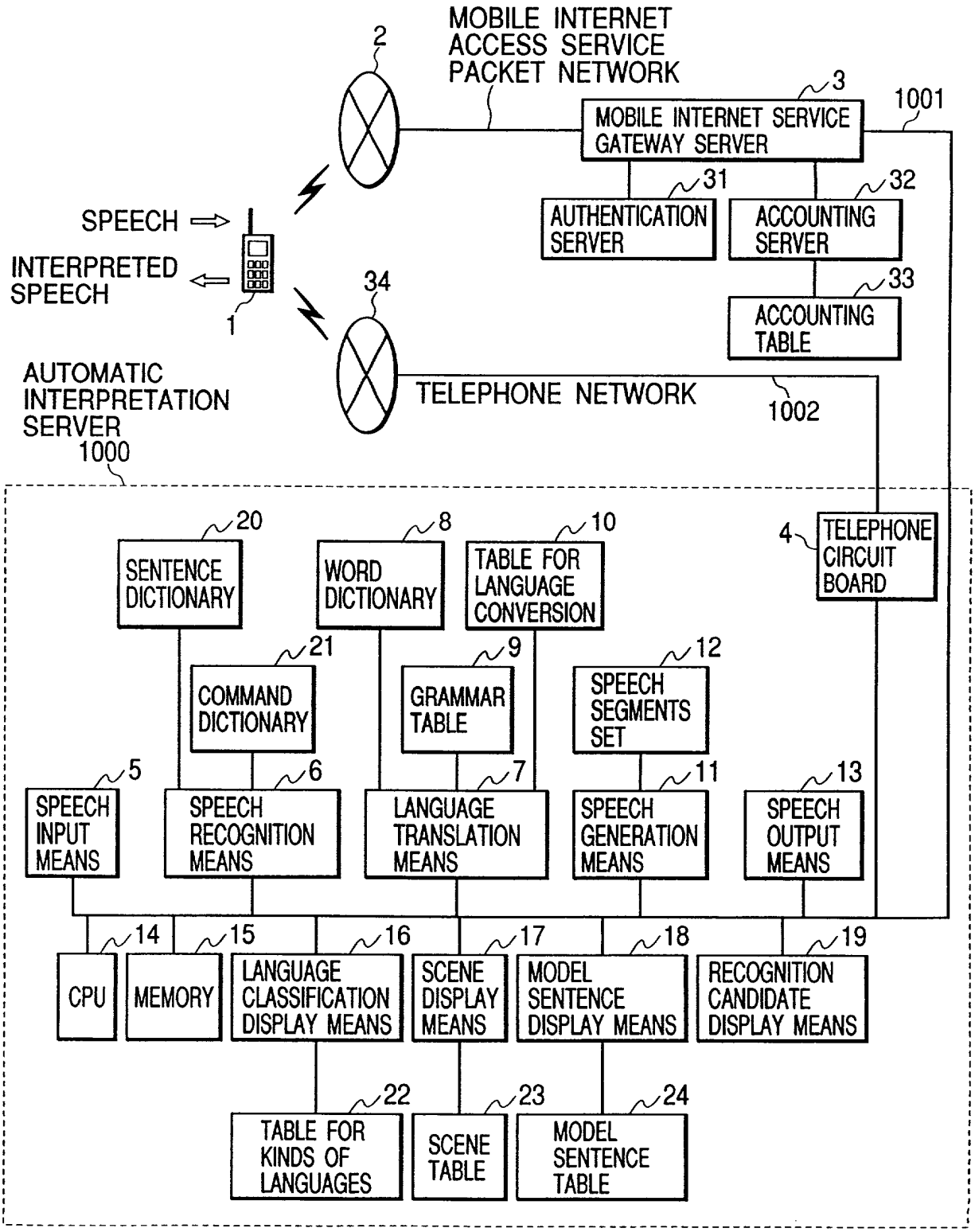

MOBILE INTERNET ACCESS SERVICE PACKET NETWORK
2
3
1001
MOBILE INTERNET SERVICE GATEWAY SERVER
31
32
AUTHENTICATION SERVER
ACCOUNTING SERVER
SPEECH
INTERPRETED SPEECH
1
34
33
ACCOUNTING TABLE
AUTOMATIC INTERPRETATION SERVER
1000
TELEPHONE NETWORK
1002
20
8
10
4
TELEPHONE CIRCUIT BOARD
SENTENCE DICTIONARY
WORD DICTIONARY
TABLE FOR LANGUAGE CONVERSION
21
9
12
COMMAND DICTIONARY
GRAMMAR TABLE
SPEECH SEGMENTS SET
5
6
7
11
13
SPEECH INPUT MEANS
SPEECH RECOGNITION MEANS
LANGUAGE TRANSLATION MEANS
SPEECH GENERATION MEANS
SPEECH OUTPUT MEANS
14
15
16
17
18
19
CPU
MEMORY
LANGUAGE CLASSIFICATION DISPLAY MEANS
SCENE DISPLAY MEANS
MODEL SENTENCE DISPLAY MEANS
RECOGNITION CANDIDATE DISPLAY MEANS
22
23
24
TABLE FOR KINDS OF LANGUAGES
SCENE TABLE
MODEL SENTENCE TABLE

FIG. 18

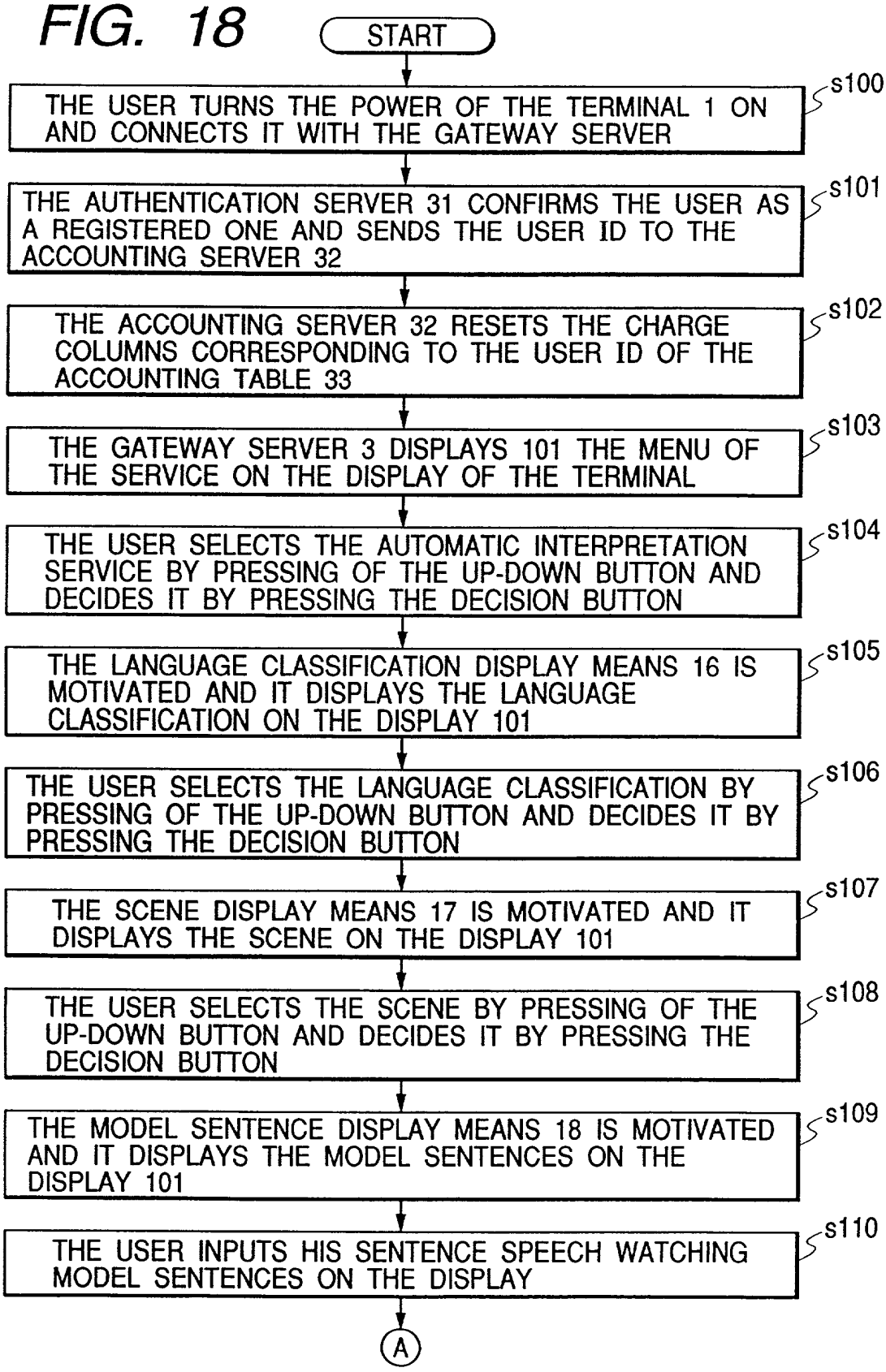
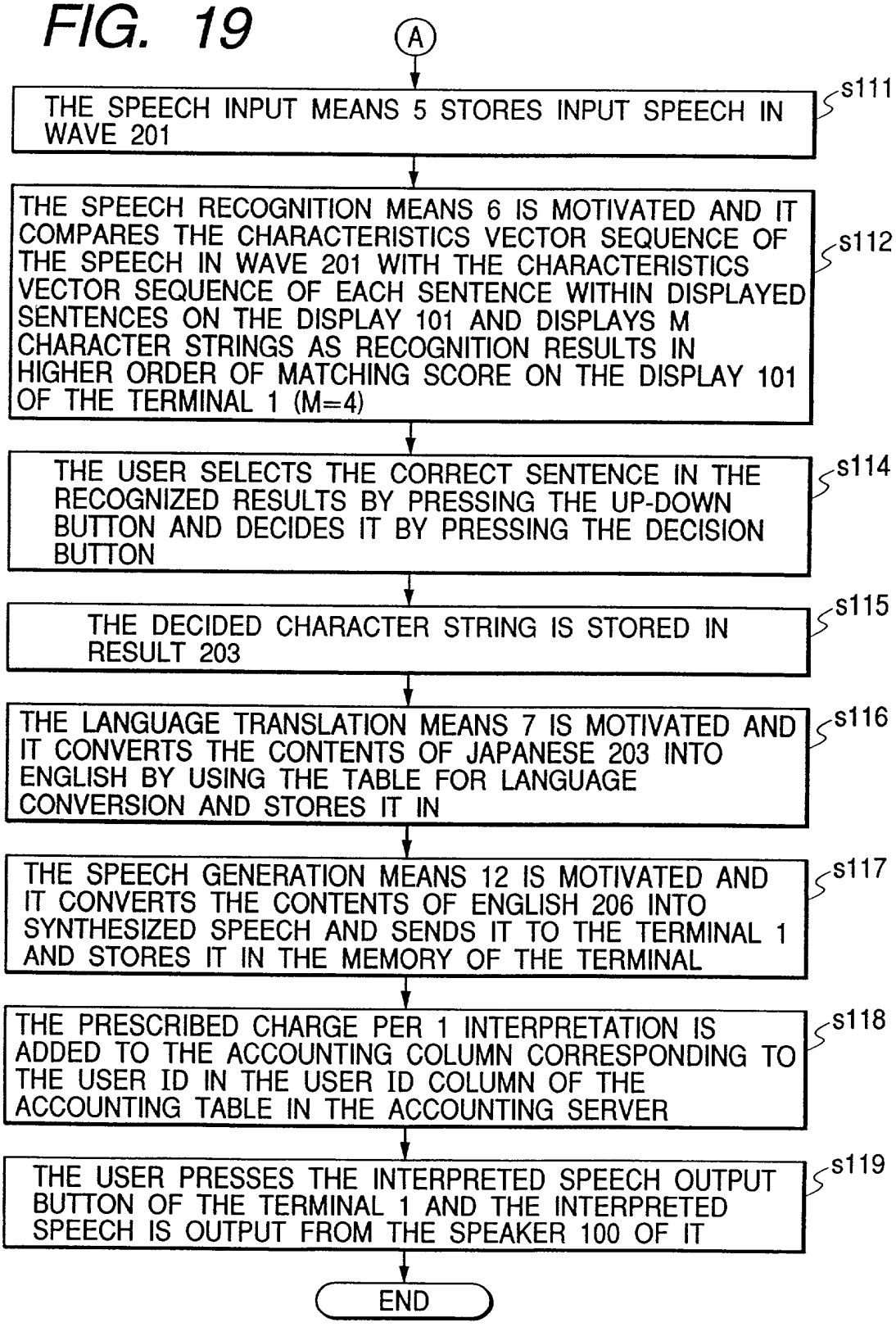

START
THE USER TURNS THE POWER OF THE TERMINAL 1 ON AND CONNECTS IT WITH THE GATEWAY SERVER
s100
THE AUTHENTICATION SERVER 31 CONFIRMS THE USER AS A REGISTERED ONE AND SENDS THE USER ID TO THE ACCOUNTING SERVER 32
s101
THE ACCOUNTING SERVER 32 RESETS THE CHARGE COLUMNS CORRESPONDING TO THE USER ID OF THE ACCOUNTING TABLE 33
s102
THE GATEWAY SERVER 3 DISPLAYS 101 THE MENU OF THE SERVICE ON THE DISPLAY OF THE TERMINAL
s103
THE USER SELECTS THE AUTOMATIC INTERPRETATION SERVICE BY PRESSING OF THE UP-DOWN BUTTON AND DECIDES IT BY PRESSING THE DECISION BUTTON
s104
THE LANGUAGE CLASSIFICATION DISPLAY MEANS 16 IS MOTIVATED AND IT DISPLAYS THE LANGUAGE CLASSIFICATION ON THE DISPLAY 101
s105
THE USER SELECTS THE LANGUAGE CLASSIFICATION BY PRESSING OF THE UP-DOWN BUTTON AND DECIDES IT BY PRESSING THE DECISION BUTTON
s106
THE SCENE DISPLAY MEANS 17 IS MOTIVATED AND IT DISPLAYS THE SCENE ON THE DISPLAY 101
s107
THE USER SELECTS THE SCENE BY PRESSING OF THE UP-DOWN BUTTON AND DECIDES IT BY PRESSING THE DECISION BUTTON
s108
THE MODEL SENTENCE DISPLAY MEANS 18 IS MOTIVATED AND IT DISPLAYS THE MODEL SENTENCES ON THE DISPLAY 101
s109
THE USER INPUTS HIS SENTENCE SPEECH WATCHING MODEL SENTENCES ON THE DISPLAY
s110
A

FIG. 19


A
THE SPEECH INPUT MEANS 5 STORES INPUT SPEECH IN WAVE 201
s111
THE SPEECH RECOGNITION MEANS 6 IS MOTIVATED AND IT COMPARES THE CHARACTERISTICS VECTOR SEQUENCE OF THE SPEECH IN WAVE 201 WITH THE CHARACTERISTICS VECTOR SEQUENCE OF EACH SENTENCE WITHIN DISPLAYED SENTENCES ON THE DISPLAY 101 AND DISPLAYS M CHARACTER STRINGS AS RECOGNITION RESULTS IN HIGHER ORDER OF MATCHING SCORE ON THE DISPLAY 101 OF THE TERMINAL 1 (M=4)
s112
THE USER SELECTS THE CORRECT SENTENCE IN THE RECOGNIZED RESULTS BY PRESSING THE UP-DOWN BUTTON AND DECIDES IT BY PRESSING THE DECISION BUTTON
s114
THE DECIDED CHARACTER STRING IS STORED IN RESULT 203
s115
THE LANGUAGE TRANSLATION MEANS 7 IS MOTIVATED AND IT CONVERTS THE CONTENTS OF JAPANESE 203 INTO ENGLISH BY USING THE TABLE FOR LANGUAGE CONVERSION AND STORES IT IN
s116
THE SPEECH GENERATION MEANS 12 IS MOTIVATED AND IT CONVERTS THE CONTENTS OF ENGLISH 206 INTO SYNTHESIZED SPEECH AND SENDS IT TO THE TERMINAL 1 AND STORES IT IN THE MEMORY OF THE TERMINAL
s117
THE PRESCRIBED CHARGE PER 1 INTERPRETATION IS ADDED TO THE ACCOUNTING COLUMN CORRESPONDING TO THE USER ID IN THE USER ID COLUMN OF THE ACCOUNTING TABLE IN THE ACCOUNTING SERVER
s118
THE USER PRESSES THE INTERPRETED SPEECH OUTPUT BUTTON OF THE TERMINAL 1 AND THE INTERPRETED SPEECH IS OUTPUT FROM THE SPEAKER 100 OF IT
s119
END